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U.S. EXPORTS TO JAPAN: A REVIEW OF 1985 SALES

Summary

After increasing during the first two years of the current Japanese economic expansion, U.S. exports to Japan stumbled in 1985, falling 4 percent to $22.6 billion. While sales were expected to be off, the size of the drop was somewhat surprising since domestic demand generated more of Japan's growth last year than in either 1983 or 1984 and the dollar peaked against the yen in February 1985 after a two-year run-up in value. One key to the riddle was lower international commodity prices; another was stiffer competition for sales of industrial and agricultural inputs. These developments in fact accounted for a big part of the drop in exports of intermediate goods, which were down 5 percent to $8.7 billion, and virtually all of the 15.7 percent contraction to $5 billion in sales of food and feed. At the same time, sales of capital goods, the category most affected by the performance of domestic demand and the dollar-yen relationship, did expand, increasing 5.5 percent to $5.9 billion.

Export Profiles

Industrial Supplies - The first half of the 1980s was a difficult, frequently frustrating period for American suppliers of most big-ticket industrial raw materials and intermediate inputs -- ironically enough, for reasons that had nothing to do with the strong dollar. After two years of false starts, Japanese manufacturing output finally recovered in 1983, but the rebound generated little new export business for U.S. companies since it largely bypassed the basic industries that are the major consumers of imported industrial

supplies. Neither did struggling exporters get much relief the next year when the expansion spread to this part of the manufacturing sector. A number of Japanese industries producing intermediates emerged from the recession leaner and more competitive, wiping out market opportunities for their American counterparts; in other industries, raw material exporters had to contend with third-country suppliers new to the Japanese market or intensified sales competition from old rivals. Already hard-pressed, U.S. exporters were dealt another setback in 1985: growth in Japan's basic industries slowed or even reversed course.

U.S. coal suppliers certainly faced a no-win situation last year. For starters, Japanese steel production, which had rallied in 1984 from a four-year slide, was flat, held down both by smaller orders from all major domestic steel users except automotive makers and by reduced shipments to every important export market other than China. Putting a double damper on coking coal demand, electric furnace operators again expanded output at the expense of integrated manufacturers. But these developments were the least of American exporters' troubles. The real problem was depressingly familiar: steel mills were overcommitted on coking coal deliveries from mines in Australia and Canada, a number of which are financed or owned in part by Japanese interests. To make room for these shipments, the mills resorted to the old standby of cutting purchases from U.S. coal companies. American producers consequently ended up supplying just 18 percent of Japan's 1985 coking coal imports -- half their 1982 market share and four points below the 1984 level. The fact that Japanese electric utilities bought more steam coal from this country did nothing to contain the U.S. industry's growing trade frustrations, which were exacerbated by the news that steel mills had increased coking coal imports from the Soviet Union and maintained deliveries from China and South Africa at 1984 volumes. In any case, the increase in steam coal shipments was too small to prevent total U.S. coal exports from dropping 11.1 percent to under $0.8 billion.

The contraction in coal shipments was an admittedly extreme example of the fallout from expanded import competition in the often sluggish Japanese market for industrial supplies, but the same script was acted out on a more modest scale for a number of other U.S. exports. Log and lumber suppliers can vouch for that. Japanese housing starts increased in 1985 for the second consecutive year, reaching their highest level since 1980, but this gain generated little extra business for sawmills, whether domestic or foreign, because of the long-term trend toward proportionately fewer wooden housing units and smaller average floor space. But Pacific Northwest log exporters got an unexpected break. In a complete reversal of 1984's picture, Japanese wholesalers and sawmills entered last year with skimpy stocks of North American softwood logs. To keep supplies from moving any closer to the level at which domestic prices come under pressure, importers build up inventory. Restocking gave U.S. producers the chance to make up the ground they had lost in 1984 when importers ran down inventories by limiting purchases from this country. But regaining this ground was an uphill battle since Canadian exporters were back in the market and again undercutting U.S. prices. Although the Canadian strategy yielded the same dividend as in 1984 -- deeper inroads in the Japanese imported softwood log market, U.S. perseverance also paid off: American exporters recaptured their 1983 market share, largely by taking sales from the Soviet Union,

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the number-two supplier. In the process, U.S. sales of logs and lumber went up 5.3 percent to just short of $0.9 billion.

A temporarily resurgent domestic industry and an expanded group of international rivals gave U.S. exporters of petrochemical intermediates a double taste of competition in 1985's slower-growing or flat Japanese market for plastics, synthetic fibers, surfactants, synthetic rubber, fertilizers and other downstream products. Japanese manufacturers of ethylene, the basic building block for petrochemical intermediates, got a better handle on their high production costs last year, thanks to continuing declines in the price of naphtha, the industry's predominant feedstock and fuel, and the completion of a government-orchestrated capacity-reduction program. Progress on the cost front did not erase the overall competitive edge of American suppliers of ethylene derivatives in the Japanese market, but it did limit or reduce export opportunities for specific commodity intermediates like acrylonitrile. In other commodity product markets, including ethylene dichloride, ethylene glycol and styrene, the sales fight had an added dimension: competition from newcomer Saudi Arabia and a more aggressive Canadian industry. Here the United States generally ended up being the odd man out.

The checkered export performance of petrochemicals was duplicated by the catch-all category of industrial inorganic chemicals. In general, these are also commodity products where international competitiveness is determined by plant size and/or supply availability -- both pluses for American makers; in some cases like soda ash and other chloralkalis, U.S. producers have an additional advantage over their Japanese competitors because of lower energy costs. But soft Japanese demand in a number of the diverse end-markets for commodity industrial inorganic chemicals -- automotive products, housing, paper and pulp, metals and fertilizers as well as other chemical products -- produced a mixed export record for U.S. companies. With flat sales of the biggest-ticket industrial inorganic chemical export -- uranium and thorium compounds, which are used primarily as catalysts and reagents in medical research and diagnostic procedures, total chemical sales slipped 1.5 percent in 1985 to $1.5 billion.

While increased competition from third-country suppliers made life difficult in 1985 for U.S. exporters of a long list of industrial inputs, West Coast petroleum refiners retained their role as swing suppliers of heavy (residual) fuel oil to Japan. Moreover, they continued to profit from the problems of the Japanese industry. Slower growth plus the ongoing switchover to nuclear power and liquefied natural gas for electricity generation and to coal for industrial fuel consumption forced Japanese oil refiners to reduce output again last year. This cutback, which dropped total fuel oil production to 75 percent of its 1980 level, left the country short on heavy fuel oil for specialized uses, including bunker fuel for coastal shipping. With U.S. consumption of gasoline and light (distillate) fuel oil up in 1985 but demand for heavy fuel oil off, California refiners had surplus stocks of residual fuel oil available for export to Japan. Larger shipments of this product as well as petroleum coke more than offset the reduced outflow of light fuel oil, boosting sales of petroleum products 11.6 percent to almost $0.8 billion.

Food and Feed - While Japan proved to be a better market for U.S. agricultural commodities in 1984 than analysts and traders had expected, their generally pessimistic projections for last year were unfortunately on target.

If anything, estimates of corn shipments erred on the high side -- an understandable mistake since, on paper at least, developments in the market for livestock and poultry feed, the end use for roughly three-fourths of corn deliveries, signaled another big-volume year.

The strengthening yen on top of falling international grain and soybean prices allowed feed industry price leader Zennoh, a national federation of cooperatives controlling nearly two-fifths of Japan's feed market, to cut bulk feed prices in 1985 to their lowest levels since the late 1970s. With declines of 6 to 8 percent in the major cost of production for broiler, egg and milk producers and in the second-biggest cost for hog- and beef-finishing operations, Japanese formula feed demand remained on the upswing, shrugging off the dampening impact of weaker farm prices for pork, poultry meat and milk.

Helped paradoxically by greater output of hog rations and broiler feed, compound feed production expanded by a larger margin than forecasters had predicted, extending the string of record-breaking performances to a fourth year. Although relative feed grain prices again meant that sorghum supplied a disproportionate share of the extra volume needed to increase output, feed mills did use some more corn. At any other time, this business would have automatically gone to American exporters, but 1985 was the year the U.S. stranglehold on Japan's feed corn market was broken. Japanese trading companies make no apologies for buying almost one-seventh of the feed industry's corn requirements from China or for purchasing a small volume of Argentine corn for mixing. Not only was Chinese corn priced below American corn on a delivered basis, but it had a higher protein content and a lower moisture level.

Although American corn suppliers needed no reminder that their luck had run out, they still got one. South Africa's normally big share of the Japanese market for corn to manufacture sweeteners, starch and other processed corn products was up for grabs again because of a second year of short supplies. But instead of taking over Japan's industrial corn market as they had in 1984, U.S. exporters were forced to share this business with their new rivals, the Chinese. This double setback threw off predictions of 1985 U.S. corn shipments, as volume dropped one-fifth below 1984's record level. More importantly, the combination of an unexpectedly big fall in shipments and another decline in export prices spelled trouble for the bilateral trade figures: sales of the former number-one U.S. export to Japan contracted 35.1 percent to $1.3 billion.

While higher-than-projected Japanese production of commercially mixed feed was of no help to struggling American corn suppliers, it did get U.S. soybean exports back on track sooner than analysts and exporters alike had anticipated. Their initial pessimism was well-founded, however. Despite a reduction in the 1984 soybean crush, Japanese oilseed processors were still saddled with unusually high soybean meal stocks at the beginning of last year, in large part because 1984 relative protein meal prices had dictated greater use of fish meal and, to a lesser extent, rapeseed meal in compound feed. Moreover, the prospects for working stocks down in 1985 to a level that would support expanded crushing and larger soybean imports seemed bleak no matter how attractively soybeans were priced, given the limited gain predicted for feed production and rising demand for rapeseed oil, particularly in salad dressings.

Much to the relief of U.S. soybean exporters, 1985's sizable increase in formula feed output allowed Japanese oilseed processors to reduce meal inventories ahead of schedule. So did a partial flip in the relative prices of feed ingredients that gave vegetable protein meal an edge on other non-grain inputs last year, although contrary to preliminary indications, rapeseed meal was priced better than soybean meal over the six months starting in April. With stocks back to manageable levels, processors stepped up soybean crushing and at the same time contracted for more imports. While this turnaround rescued U.S. shipments from back-to-back declines, there was a down side for American suppliers: their monopoly on providing all the soybeans crushed by the Japanese industry was broken by Brazil, which received orders for roughly half of the extra volume purchased in 1985. Still, the additional contracts coming to this country helped stop the decline in U.S. sales caused by falling export prices at the $0.9 billion-plus mark, a 20 percent drop.

Capital Goods - A second year of double-digit growth in business spending on plant and equipment not only was the key to Japan's continued domestic economic expansion, but it also made capital goods the one consistent bright spot in an otherwise gloomy 1985 export picture. Paced by big corporations in the electronics, chemicals and automotive industries, the spending boom extended across the full range of investment objectives -- modernization, including automation, capacity expansion, diversification, and the development of new product and process technologies. For most U.S. makers of capital goods, though, bigger Japanese expenditures on modernization/automation remained the ticket to larger export sales.

The expanding market in Japan for factory and office automation equipment certainly provided additional sales opportunities for American manufacturers of computer systems and peripheral equipment if 1985's 14.1 percent jump in exports to $1.3 billion is any guide. What made this gain twice as significant was that it came close to the estimated growth of the Japanese computer market last year, indicating that American competitors successfully defended their eroded market position -- pegged in 1985 at about 30 percent overall and roughly 40 percent in mainframes -- from further encroachment by their Japanese challengers.

Most U.S. companies, whether newcomers to Japan or seasoned market veterans, still rely exclusively on exports of domestically assembled products to supply Japanese customers. But following the path blazed by International Business Machines Corp., a small but rising number of systems makers has opted for a different strategy: manufacturing part of their line in Japan and filling it out with exports from the United States. This approach, which boosted shipments of parts (including subassemblies) to almost $0.6 billion last year, seems to be paying extra dividends. To cite the most obvious example, IBM Japan Ltd.'s 1985 domestic sales climbed 20.7 percent to Y658.6 billion ($3.9 billion at Y170=$1.00), led by brisk shipments of the newly introduced 3090 (Sierra) series of large mainframes, Systems 36 and 38 minicomputers and the 5550 workstation family, the Japanese-language version of the IBM PC. In comparison, Japanese industry leader Fujitsu, Ltd. increased sales at home by roughly 20.8 percent to an estimated Y845.7 billion ($5 billion) in the year ending in March 1986.

While exports of measuring and testing equipment and medical apparatus also expanded again last year, a number of 1984's star sales performers faltered, including semiconductor production and assembly equipment and integrated

circuits. What kept capital goods firmly entrenched in the plus column was a rebound in shipments of commercial aircraft, which soared 67.3 percent to $0.9 billion. Continuing to expand and modernize, Japan Air Lines added the 50th Boeing Co. 747 to its fleet, this one a 747-300 for international service, while taking delivery of its first three 767-200s, JAL's replacement for the DC-8 made by McDonnell Douglas Corp. For its part, All Nippon Airways, Japan's major domestic carrier, put eight more 767-200s into operation, bringing its 767 fleet to 21. The number-three Japanese carrier, Toa Domestic Airlines, also upgraded its fleet last year, introducing two McDonnell Douglas MD-80s. Rounding out the list of 1985 aircraft deliveries to Japan, Nippon Cargo Airlines, the country's first all-cargo carrier, added its second and third 747 freighters.

Consumer Goods - The sluggish growth of Japanese consumer spending during the current economic expansion finally caught up with U.S. exports in 1985, cutting sales of consumer durables and nondurables 4.1 percent to $1.4 billion. But hidden behind this figure was some positive news: sales of pharmaceuticals edged up 3.3 percent to $0.6 billion. Coming in the face of a third straight year of flat Japanese drug production and demand, this gain was further proof of the new aggressiveness of big U.S. drug companies in Japan. No longer content to just license their products to Japanese competitors, one after another American multinational is moving toward broad-based local production, usually centered on antibiotics, the biggest-selling drugs in Japan, as well as to direct distribution of its products.

Export Prospects

As difficult as last year was for U.S. companies exporting to Japan, 1986 will be worse. Missing its two main 1984-85 props -- strong overseas sales and robust capital spending, the Japanese economy is likely to continue just muddling along for the rest of the year. This pace will cancel out most of the competitive benefits of the dollar's 40 percent-plus drop against the yen, leaving exports in the minus column.

For further information, contact Susan MacKnight.

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The views expressed in this report are those of the author and do not necessarily reflect those of the Japan Economic Institute.

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U.S. Exports to Japan by Commodity, 1984 and 1985

(in millions of dollars and indicated quantity units)

Commodity	Quantity 1984	Quantity 1985	Value 1984	Value 1985	Percent Change 1984/85	Japan's Share of U.S. Exports 1985
Total Exports			$23,575.0	$22,630.8	-4.0%	10.6%
Industrial Supplies			9,139.2	8,679.9	-5.0	14.8
Bituminous Coal	16,324,191 stn	15,370,720 stn	865.4	769.1	-11.1	17.5
Coking Coal	15,498,931 stn	13,903,308 stn	829.8	712.9	-14.1	23.4
Steam Coal	825,260 stn	1,467,412 stn	35.7	56.2	57.4	4.1
Petroleum Products			683.1	762.0	11.6	21.2
Light Fuel Oils	3,175,817 bbl	2,534,194 bbl	102.6	74.8	-27.1	11.0
Heavy Fuel Oils	13,579,993 bbl	17,423,590 bbl	369.2	432.6	17.2	24.9
Lubricating Oils			25.8	24.3	-5.8	4.0
Petroleum Coke (excl. calcined)	3,056,909 stn	3,456,521 stn	120.1	157.2	30.9	33.3
Natural Gas	55,618,275 mcf	54,174,547 mcf	262.3	249.1	-5.0	99.5
Nuclear Reactor Fuels			144.1	121.5	-15.7	35.3
Logs and Lumber	2,361,936 mbf	2,523,343 mbf	840.5	884.9	5.3	43.4
Logs	1,759,738 mbf	1,899,035 mbf	641.0	682.2	6.4	54.1
Douglas-fir Logs	914,927 mbf	1,019,640 mbf	325.6	361.7	11.1	60.6
Western Hemlock Logs	631,475 mbf	679,058 mbf	199.1	209.5	5.2	54.9
Lumber	602,198 mbf	624,308 mbf	199.5	202.7	1.6	27.0
Paper Base Stocks			519.9	470.2	-9.6	24.8
Wood Chips	2,191,675 stn	2,169,430 stn	156.6	160.6	2.6	95.1
Wood Pulp	737,697 stn	752,901 stn	327.2	277.6	-15.2	20.5
Waste Paper	308,615 stn	301,417 stn	35.4	31.2	-11.9	8.9
Paper and Paper Products			290.0	288.9	-0.4	13.1
Newsprint	182,620 stn	181,412 stn	86.8	81.6	-6.0	62.1
Kraft Linerboard	164,727 stn	150,149 stn	50.5	38.5	-23.8	8.0
Coated Container Base Stock	130,004 stn	137,127 stn	90.4	97.5	7.9	52.8
Chemicals (excl. plastics, fertilizers and insecticides)			1,536.8	1,513.2	-1.5	14.3
Cyclic Hydrocarbons			80.6	59.2	-26.6	8.5
Styrene	84,558 stn	58,781 stn	46.7	27.3	-41.5	8.7
Para-xylene	18,866,799 gal	20,132,352 gal	32.0	30.6	-4.4	12.8
Acyclic Hydrocarbons			20.3	30.5	50.2	11.3
Cyclic Organic Intermediate Chemical Compounds			142.8	143.2	0.3	11.3
Alcohols, Phenols and Their Derivatives			40.9	57.5	40.6	30.3
Nitrogen Function Compounds and Their Derivatives	23,579 stn	29,154 stn	30.2	36.9	22.2	28.0
Acyclic Organic Chemical Products			340.4	350.0	2.8	15.2
Ethylene Dichloride	247,659 stn	328,939 stn	52.3	58.8	12.4	64.8
Ethylene Glycol	78,719 stn	32,920 stn	28.6	10.9	-61.9	9.8
Acrylonitrile	89,096 stn	85,954 stn	42.5	47.6	12.0	17.0
Vinyl Acetate Monomer	44,011 stn	60,180 stn	21.3	25.2	18.3	20.2
Uranium and Thorium Compounds	561 stn	776 stn	437.7	437.5	-0.1	45.0
Sodium Compounds			49.2	51.1	3.9	8.7
Color Lakes and Toners, Dyes and Paints			31.4	35.6	13.4	8.0
Antiknock Compounds and Additives for Lubricating Oils			68.1	67.5	-0.9	10.4
Compound Catalysts (excl. nickel)			25.3	25.0	-1.2	12.1
Fertilizers and Insecticides			297.7	276.9	-7.0	6.9
Crude Phosphates	1,404,789 stn	777,625 stn	50.8	27.3	-46.3	14.0
Fertilizers			122.2	124.1	1.6	5.7
Diammonium Phosphate Fertilizers	538,275 stn	267,205 stn	92.2	42.9	-53.5	6.7
Unmixed Pesticides			44.1	66.1	49.9	8.8
Manufactured Pesticides			65.4	60.0	8.3	9.8
Plastic and Synthetic Resin Compounds			356.5	305.6	-14.3	8.8
Film, Strips and Sheets			45.7	47.0	2.8	8.2
Synthetic Rubber			56.9	51.0	-10.4	8.7

Commodity	Quantity 1984	Quantity 1985	Value 1984	Value 1985	Percent Change 1984/85	Japan's Share of U.S. Exports 1985
			$356.5	$305.6	-14.3%	8.8%
Plastic and Synthetic Resin Compounds			45.7	47.0	2.8	8.2
Film, Strips and Sheets			56.9	51.0	-10.4	8.7
Synthetic Rubber	51,498 stn	65,698 stn	12.6	34.3	172.2	83.5
Tall Oil			17.6	31.9	81.3	20.0
Photographic Chemicals	55,385,712 sft	54,044,378 sft	38.9	35.6	-8.5	29.1
Still X-Ray Film						
Still Photographic Film (excl. film packaged for retail sale)	17,240,740 sft	23,018,655 sft	17.3	26.8	54.9	13.9
Photosensitive Papers			29.2	26.7	-8.6	9.7
Steel Scrap	2,680,038 stn	2,110,087 stn	264.9	199.1	-24.8	21.7
Nonferrous Ores and Scrap			363.8	459.6	26.3	30.0
Copper Ore	62,004 stn	113,354 stn	63.7	108.9	71.0	83.1
Molybdenum Ore	3,448 stn	3,515 stn	26.0	26.2	0.8	10.6
Copper Scrap	47,779 stn	42,155 stn	49.7	42.8	-13.9	14.7
Aluminum Scrap	188,051 stn	290,591 stn	184.3	243.7	32.2	69.5
Nonferrous Metals			378.9	289.4	-23.6	19.7
Silver	4,284,194 toz	3,844,196 toz	35.5	24.3	-31.5	26.3
Platinum and Platinum Group Metals	234,766 toz	185,665 toz	67.0	62.7	-6.4	56.9
Copper and Copper Alloys			119.2	16.3	-86.3	5.4
Unwrought Copper	78,567 stn	5,605 stn	107.5	7.9	-92.7	11.2
Aluminum and Aluminum Alloys			226.0	257.7	14.0	27.5
Aluminum Ingot	154,011 stn	218,620 stn	209.9	239.2	14.0	54.2
Unwrought Magnesium	12,042 stn	11,149 stn	28.9	28.6	-1.0	28.6
Zirconium	367 stn	595 stn	19.1	25.0	30.9	48.5
Gold	38,722 toz	84,667 toz	10.9	25.7	135.8	2.0
Iron and Steel (incl. ferroalloys)			63.1	48.4	-23.3	3.9
Tube and Pipe Fittings			28.0	22.4	-20.0	11.1
Silicon			29.7	30.4	2.4	49.4
Unmanufactured Nonmetallic Minerals			100.4	104.8	4.4	14.2
Kaolin Clay	468,450 stn	437,244 stn	61.7	60.2	-2.4	34.5
Other Clays			22.3	28.1	26.0	20.7
Manufactured Mineral Supplies			108.7	111.1	2.2	8.3
Glass (excl. automotive and mirror glass)			29.3	30.7	4.8	9.0
Industrial Textile Fibers, Yarns and Fabrics			67.5	69.3	2.7	2.8
Synthetic Fibers and Manmade-Fiber Yarns			32.2	37.6	16.8	3.2
Raw Cotton	1,588,117 rba	1,065,454 rba	605.1	368.0	-39.2	22.5
Hides and Skins			325.2	298.2	-8.3	27.4
Whole Cattle Hides	7,333,641 pc	6,824,464 pc	305.0	276.1	-9.5	27.8
Leaf Tobacco	46,058 stn	51,002 stn	286.0	302.4	5.7	19.9
Stemmed Flue-Cured Leaf	34,036 stn	31,897 stn	243.5	211.3	-13.2	23.8
Stemmed Burley Leaf	5,460 stn	11,266 stn	40.7	83.2	104.4	27.2
			5,626.6	5,938.6	5.5	6.1
Capital Goods			3,458.5	3,384.7	-2.1	7.4
Nonelectric Machinery			1,166.2	1,331.1	14.1	9.2
Data Processing Equipment			296.6	383.2	29.2	12.2
Computers			760.2	866.7	14.0	8.1
Peripheral Equipment and Parts			85.3	74.4	-12.8	5.5
Disk and Tape Storage Units			45.2	35.6	-21.2	4.3
Terminals			29.7	33.0	11.1	7.2
Printers			484.5	585.3	20.8	8.7
Parts			28.9	38.8	34.3	11.0
Magnetic Computer Disks and Tapes			351.6	276.4	-21.4	25.0
Semiconductor Production and Assembly Equipment and Parts			539.1	553.2	2.6	11.2
Measuring, Testing and Controlling Instruments and Parts			56.1	45.9	-18.2	6.3
Industrial Process-Type Instruments and Parts			51.5	59.7	15.9	12.4
Chemical Analysis Equipment and Parts			55.6	50.5	-9.2	12.7
Physical Analysis Equipment and Parts						

Commodity	Quantity 1984	Quantity 1985	Value 1984	Value 1985	Percent Change 1984/85	Japan's Share of U.S. Exports 1985
Equipment for Testing Electrical, Radio and Communications Circuits and Parts			$191.6	$216.5	13.0%	16.4%
Waveform Measuring and/or Analyzing Apparatus and Parts			36.2	39.7	9.7	16.0
Instruments for Measuring or Testing Combinations of Electrical Characteristics and Parts			78.8	95.9	21.7	19.9
Instruments for Measuring or Checking Electrical Quantities and Parts			42.2	32.4	-23.2	13.7
Scientific, Professional and Medical Equipment			247.1	265.5	7.4	12.1
Electromedical and Electrotherapeutic Apparatus and Parts (excl. X-ray apparatus)			110.6	117.5	6.2	13.2
Medical Equipment Based on X-Rays and Parts			32.3	35.0	8.4	15.4
Other Medical, Dental and Surgical Instruments and Parts			86.4	91.6	6.0	11.4
Power Generating Equipment (excl. aircraft and automotive engines)			307.5	73.3	-76.2	3.6
Auxiliary Plant for Steam and Other Vapor Generating Boilers			85.1	0.5	-99.4	2.3
Gas Turbines and Parts for Mechanical Drives			123.0	17.0	-86.2	3.3
Nonfarm Tractors, Parts and Attachments			45.3	52.4	15.7	3.2
Parts of Tracklaying Tractors			22.1	29.8	34.8	5.8
Excavating and Paving Machinery and Parts			29.2	34.2	17.1	2.2
Drilling and Oilfield Equipment			66.9	68.9	3.0	2.2
Parts and Accessories for Oilfield and Gasfield Drilling Equipment			63.5	63.1	-0.6	2.6
Machinery and Parts for Making or Finishing Pulp, Paper and Paperboard			14.0	27.8	98.6	11.5
Machine Tools and Parts			56.1	59.8	6.6	7.9
Commercial and Industrial Heating and Cooling Equipment and Parts			46.3	42.0	-9.3	6.2
Pumps and Compressors			45.8	49.1	7.2	3.3
Filtering and Purifying Machinery and Parts			39.5	37.0	-6.3	9.3
Taps, Cocks, Valves and Similar Devices and Parts			35.4	35.5	0.3	5.9
Equipment for Service Industries			111.3	120.1	7.9	6.4
Electric Machinery			874.9	804.3	-8.1	5.9
Semiconductors			361.5	235.1	-35.0	5.6
Integrated Circuits			253.7	130.6	-48.5	11.5
Linear Integrated Circuits			81.8	33.6	-58.9	15.7
Chips, Dice and Wafers			69.2	75.7	9.4	3.4
Telephone Equipment and Parts			22.6	38.9	72.1	5.4
Radar Apparatus (excl. for planes and boats) and Parts			63.5	70.8	11.5	12.5
Parts			58.8	67.7	15.1	14.8
Generators, Transformers and Accessories			92.3	75.9	-17.8	5.0
Switches and Relays			22.8	27.5	20.6	8.1
Parts for Generators			30.4	3.5	-88.5	3.1
Connectors			57.4	46.8	-18.5	13.2
Terminals and Electric Splicers			27.0	19.7	-27.0	11.1
Transportation Equipment			1,293.2	1,749.6	35.3	4.7
Civilian Aircraft			541.4	905.9	67.3	13.5
Passenger, Cargo and Combination Jet Transports	10 ut	17 ut	461.6	886.4	92.0	16.1
Used or Rebuilt Planes	8 ut	13 ut	42.8	2.4	-94.4	0.7
Civilian Aircraft Engines, Parts and Accessories			437.5	552.1	26.2	8.8
Jet Turbines			56.0	50.3	-10.2	5.7
Jet Engine Parts			158.6	229.4	44.6	11.7
Parts for Civilian Aircraft			227.1	270.2	19.0	8.5
Railway Equipment, Parts and Accessories			55.7	11.9	-78.6	2.8
Parts for Rolling Stock			43.2	7.4	-82.9	11.9
New Cars	2,044 ut	1,376 ut	29.5	18.8	-36.3	0.3
Automotive Parts, Engines and Bodies			180.2	214.8	19.2	1.5
Engines and Parts			33.3	32.1	-3.6	1.3
Transmissions			23.5	25.6	8.9	2.1

Commodity	Quantity 1984	Quantity 1985	Value 1984	Value 1985	Percent Change 1984/85	Japan's Share of U.S. Exports 1985
Food and Feed			$5,929.2	$5,000.7	-15.7%	21.9%
Corn (excl. seed and popcorn)	537,086,560 bu	432,179,039 bu	1,990.2	1,292.6	-35.1	25.0
Sorghum (excl. seed)	87,897,756 bu	95,506,830 bu	269.1	240.9	-10.5	29.9
Soybeans (excl. seed)	152,067,433 bu	157,900,636 bu	1,171.7	937.0	-20.0	24.1
Animal Feeds			172.7	161.2	-6.7	8.5
Dried Beet Pulp	444,437 stn	359,546 stn	58.2	43.9	-24.6	84.9
Alfalfa Hay Cubes	396,409 stn	441,397 stn	51.4	56.8	10.5	90.7
Wheat	124,086,660 bu	114,652,413 bu	534.5	469.0	-12.3	13.3
Barley	16,565,372 bu	6,347,372 bu	46.7	14.2	-69.5	17.9
Fruits and Vegetables			452.6	452.1	-0.1	19.0
Lemons	132,380 stn	120,988 stn	80.4	77.2	-4.0	83.2
Grapefruit	159,517 stn	118,701 stn	51.4	51.5	0.2	55.7
Oranges and Tangerines	96,203 stn	119,097 stn	62.0	73.3	18.2	30.3
Fresh Non-Citrus Fruit			30.6	33.7	10.1	10.8
Almonds			48.3	45.3	-6.2	11.3
Frozen Vegetables			59.5	61.0	2.5	65.0
Frozen French Fried Potatoes	47,393 stn	52,859 stn	30.9	33.8	9.4	81.6
Meat and Meat Products			571.0	540.8	-5.3	46.9
Fresh and Frozen Beef	85,578 stn	91,012 stn	322.2	340.6	5.7	75.0
Fresh and Frozen Beef Offals	38,072 stn	40,133 stn	76.9	76.1	-1.0	30.6
Fresh and Frozen Pork	20,845 stn	10,118 stn	62.1	32.7	-47.3	52.9
Fresh and Frozen Poultry	57,647 stn	51,158 stn	74.6	57.3	-23.2	25.5
Fish and Fish Products			502.9	685.4	36.3	67.5
Fresh and Frozen Whole Salmon	84,910 stn	113,657 stn	261.5	384.9	47.2	83.3
Fresh and Frozen Whole Herring	33,154 stn	37,245 stn	42.9	54.7	27.5	77.5
Fish Roe	15,196 stn	14,042 stn	81.4	99.5	22.2	83.8
Frozen Snow Crab	5,911 stn	9,691 stn	24.3	33.1	36.2	92.1
Consumer Goods			1,475.5	1,415.5	-4.1	11.2
Pharmaceuticals			571.8	590.5	3.3	20.8
Bulk Antibiotics			163.8	167.7	2.4	24.8
Packaged Vitamins			31.5	39.2	24.4	40.6
Blood and Blood Derivatives			146.3	161.5	10.4	43.2
Cigarettes	315,258,900 pk	322,756,950 pk	95.4	94.9	-0.5	8.0
Electric Household Appliances (incl. air conditioners)			50.6	43.5	-14.0	4.2
Stainless Steel Cooking and Kitchenware			77.1	39.0	-49.4	76.9
Records and Consumer Electronics			25.3	34.0	34.4	8.3
Toys and Sporting Goods			90.6	85.7	-5.4	11.7
Golf Equipment			43.2	36.1	-16.4	41.8
Still Film in Cartridges and Rolls	44,567,790 ut	39,890,112 ut	64.0	57.4	-10.3	24.8
Nonwoven Fabrics of Manmade Fibers			33.6	30.6	-8.9	23.7
Clothing			43.1	33.7	-21.8	4.5
Footwear			37.5	34.2	-8.8	30.8
Gem Diamonds and Other Gem Stones			56.3	50.3	-10.7	11.3
Works of Art			34.3	34.8	1.5	10.7
Printed Material			66.0	59.7	-9.5	4.7
Miscellaneous			1,404.5	1,595.9	13.6	7.5
Military-Type Goods			401.6	439.0	9.3	8.1
Other Domestic Exports			521.6	568.2	8.9	5.9
Military Aircraft Engine Parts			326.3	334.2	2.4	11.9
Re-exports			481.3	588.8	22.3	9.5

Key to quantity abbreviations: bbl = barrels; bu = bushels; gal = gallons; mbf = thousand board feet; mcf = thousand cubic feet; pc = pieces; pk = packs; rba = running bales; sft = square feet; stn = short tons; toz = troy ounces; ut = units

Source: U.S. Department of Commerce, U.S. Exports: Schedule E Commodity by Country (FT 410), December 1984 and December 1985.